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ABSTRACT

This study investigated how preservice teachers perceived constructivist teaching and how they perceived students' learning. The study sample consisted of 32 predominantly African- American preservice teachers enrolled in an early childhood program. Data were collected via a written assignment that asked them to describe their ideas about constructivist teaching and students' learning. Data analysis indicated that student teachers identified 14 major themes which could be categorized into four patterns. Eight of the themes related to children's learning in constructivist environments, four of the themes related to constructivist teaching, one theme related to assessment, and one theme related to direct instruction. Overall, preservice teachers were more concerned about aspects of students' learning than aspects of teaching. Most of them appeared to be connecting the theoretical knowledge they gained from coursework in college but not projecting their thinking to actual classroom teaching. Over half of the preservice teachers agreed that children constructed their knowledge through hands-on experience, and they actively engaged themselves in learning tasks and constructed and reconstructed experiences grounded in their prior knowledge. For preservice teachers to handle constructivist teaching with confidence, they must develop appropriate knowledge and skills about practice. (Contains 18 references.) (SM)

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Running head: CONSTRUCTIVIST TEACHING AND LEARNING

Preservice Teachers' Perspectives on Constructivist Teaching and Learning

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Abstract

Two basic questions addressed in this study were how do preservice teachers perceive constructivist teaching, and how do they perceive students' learning? The sample for the study consisted of 32 preservice teachers who were enrolled in an early childhood program in a university in a Mid-Western state. Data were collected by means of a written assignment. In the analysis of data, qualitative research procedures were used and where necessary descriptive statistical measures were employed. From the responses given by the preservice teachers, fourteen themes were identified. They were categorized into four patterns: Eight related to children's learning, four related to constructivist teaching, one theme on assessment and one for direct instruction. Results showed that the preservice teachers were more concerned about aspects of students' learning rather than the aspects of teaching. Most of them appear to be connecting the theoretical knowledge gained from coursework they have had in college but not projecting their thinking to actual classroom teaching. For preservice teachers to handle constructivist teaching effectively with confidence, it is essential that they develop appropriate knowledge and skills about practices. Participating in programs where they get opportunities to experiment with constructivist theories of teaching may help preservice teachers become competent in constructivist teaching and guiding students learning.

Preservice Teachers' Perspectives on Constructivist Teaching and Learning

In recent years, considerable attention has been given to constructivist views of learning and building connections with actual teaching practices. The constructivist approach to teaching and learning grounded on the theory (Piaget, 1978) that the knowledge is constructed by the learner and it exists within the context of the learner (Caprio, 1994). Meaningful learning is tied to individual's own world of experiences and to the way he or she interprets the environment (Duffy & Jonassen, 1991). Constructivists hold the view that actual learning occurs when students change their existing ideas in response to new information (Schulte, 1996). Many learners would need assistance in accessing and interpreting new information relevant to the experience so that appropriate modifications could be made and links between existing and the new experiences could be formed (Appleton, 1993). The learning contexts must be supporting, and facilitating to encourage children construct knowledge through self-direction, experimentation, problem solving, and social interaction (Chaille & Britain, 1991).

Constructivits recognize that children are at different levels of understanding and they elicit a variety of ideas shared with others which allows them to clarify their own ideas and consider those of others (Schulte, 1996). In constructivist classrooms learning occurs on the basis of prior knowledge, skills and dispositions that learners bring to the learning situations and they develop that learning by interacting with peers, teachers and the environment. However, understanding is a developmental process by which children progress from a lesser to a more perfect level. Children have their own ideas, some are

correct and some are not and if the misconceptions are ignored or dismissed most likely they will hold to their original beliefs (Rutherford & Ahlgren, (1990).

Constructivists believe that children are actively engaged in a process of constructing knowledge meaningful to them rather than passively receiving information. The constructivist views of learning demand a wider teacher role than the traditional teacher role where the teacher mostly transmits the knowledge. Transmitting is a clear-cut job: teacher decides what knowledge to transmit, communicates it to the students, and verifies what they have learned. Facilitator of knowledge construction has to be content with the fact that many aspects of the learning process are opened up to children's input and are not solely under the control of the teacher (Chaille & Britain, 1991). A setting that students constructively involved in learning will be the result of the environment that the teacher manages to create.

The constructivist teacher is a presenter, an observer, a question asker and problem poser, an environment organizer, a public relation coordinator, a documenter of children's learning and a theory builder (Chaille & Britain, 1991). To optimize learning, the teacher should carefully and clearly organize the learning environment and work from the children's ideas, facilitating options, interacting appropriately, asking questions and posing problems to stimulate children's thinking (DeVries & Kohlberg, 1987; Dharmadasa & Silvern, 2000). The constructivist teaching requires sensitivity to all aspects of a situation in which children construct their experiences in many different ways. It is an effective way of teaching which encourages active and meaningful learning and promotes responsibility and autonomy (Gray, 1997).

This re-conceptualized role of teacher is a far broader view than the traditional role. Under this new perspective, for the teacher to function effectively, the constructivist mode of teaching demands a large amount of planning which is both time and energy consuming. Teachers need to believe in the new thinking and they need to make it a part of their teaching mechanism. Though for those teachers who do not hold constructivist views of learning (Tobin & Holman, 1990) and who continues to hold on to their traditional beliefs and practices about learning and teaching (Wildy & Wallace, 1995), understanding and implementing a consturctivist teaching mechanism may seem difficult. Teachers ease towards constructivism through the teaching journey (Bell, 1993; Cunliffe, 1994; Louden & Wallace, 1994; Peterman, 1991; Stofflett & Stoddart, 1994), however, developing knowledge, skills and attitudes about constructivist practices as early as beginning college years of their teaching carrier may provide an easy path to embrace constructivist teaching.

Researchers, to date, have emphasized mostly on how teachers who are presently in the field link constructivist theory into their classroom practices. Research literature on how beginning teachers perceive constructivist teaching and students learning seems scarce. The present study addressed the questions how preservice teachers perceive constructivist teaching and how do they perceive students' learning.

Method

The sample consisted of 32 female preservice teachers with 25 African American, 4 Caucasian, and 3 Hispanic, from a university in a Mid-Western state, who were enrolled in a method course in an early childhood program. All the preservice teachers were within the age range of 20-50. The preservice teachers were asked to respond to a

written assignment, which included an essay type question: What are your ideas about constructivist teaching and students' learning. In explaining the assignment to the sample the researcher asked them to think of every aspect of constructivist teaching and every aspect of students' learning in a constructivist teaching environment. The study basically addressed two questions, how do the preservice teachers perceive constructivst teaching and how do the preservice teachers perceive students' learning? Mainly by using qualitative research procedures, possible themes and patterns were identified examining the responses received from the preservice teachers and where necessary basic descriptive statistical measures were employed.

Two judges studied the written responses given by the 32 preservice teachers and 38 theme elements were identified. A phrase or a clause with a distinctly separable meaning related to aspects of constructivist teaching or aspects of students' learning was considered a "theme element." On the basis of occurrence of a particular theme element a tally sheet was developed. After substantial verification of matching theme elements, all elements were categorized into major themes involving broader areas. From the themes major patterns were identified in preservice teachers perspectives related to constructivist teaching and learning.

Results

The 38 theme elements identified in preservice teachers' responses were finally collapsed into 14 major themes. Theme 1, "Children construct their knowledge through hands-on experiences" included the theme elements, "Children construct their own leaning," "Children learn through hands on experiences" and "Learning comes from the children." Theme 2, "Children engage themselves in learning tasks more actively" had the

theme elements, "Children are learning actively rather than passively," "Children are making decisions about their learning," "Children express their ideas independently" and "Errors are reviewed as evidence of seeking to learn." Theme 3, "Learning is self-directed and self-regulated which encourages reflection, critical thinking and meaningful learning" included the theme elements, "Learning is self directed and self regulated," "It encourages thoughtful reflection," "It is meaningful," "It is authentic reflect reality," and "It promotes critical thinking." When identifying the theme 4, "Children construct and reconstruct experiences grounded on the prior knowledge," theme elements "It is a life long process" and "It last for a life time" were considered. Theme 5, Children learn from each other in a cooperative learning setting" contained the theme elements, "Children learn cooperatively," and "Children learn from each other." Them 6, "Children refine their misconceptions interacting with the environment which stimulates their thinking." included the theme elements "Children refine their misconceptions" and "Children get their misconceptions corrected acting on the environment which stimulates their thinking." Theme 7, "Teacher needs to guide children in their constructions" included the theme element "Children need help from adults." The theme elements, "Direct instruction is a better way to teach rules," and "Direct- instruction is a better way to teach phonics." were included in theme 8, "Direct instruction can be beneficial." The theme elements, "It provides discovery learning," "It promotes problem-solving that expand cognition," and "Allows children's exploration and experimentation" were considered for the theme 9, "Children learn through exploration, experimentation, discovering and problem solving." Theme 10, "Children are enthusiastic and motivated to learn, and they apply what they learn in different contexts" involved the theme element; "Children are not only receiving

information they apply the information as well." Theme 11, "Learning can be assessed on children's performances" had the theme element, "It provides authentic assessment." Theme 12, "Constructivist teaching requires a balance curriculum" had the theme element, "Need more activities in all the subject areas." Theme 13, "Constructivist teaching is more child-centered" included theme elements "Teaching is more student-centered," "Teaching is more student oriented" and "It revolves around students." Theme 14, "Constructivist teaching is an effective way to teach" included the theme elements, "It benefits to teachers and children," and "It puts pressure on teaching."

Table 1 shows the fourteen themes and the percentages of the responses received from the total sample for each theme. The themes were listed according to the percentage of the responses following the most to the least.

Insert Table 1 about here

According to the data in Table 1, more than 52% of the sample had the following four themes in their responses 1. Children construct their knowledge through hands on experiences, 2. Children engage themselves in learning tasks more actively, 3. Learning is self-directed and self regulated which encourages reflection, critical thinking and meaningful learning and 4. Children construct and reconstruct experiences grounded on the prior knowledge. The three themes, Children learn from each other in a cooperative learning setting, Children refine their misconceptions interacting with an environment that stimulates their thinking and Teacher needs to guide children in their constructions had the percentages between 32 and 39. Between 25% and 28% of the sample had the

following four themes in their responses. 1. Direct instruction can be beneficial, 2. Children learn through exploration, experimentation, discovering and problem solving, 3. Children are enthusiastic and motivated to learn, and apply what they learn in different contexts and 4. Learning can be assessed on children's performances. Sixteen percent of the responses had the three themes, Constructivist teaching requires a balance curriculum, Constructivist teaching is more child-centered and Constructivist teaching is an effective way to teach.

Four major patterns were identified in preservice teachers' perspectives related to constructivist teaching and learning. Table 2 reports preservice teachers' perspectives related to constructivist teaching and students' learning in four major categories.

Insert Table 2 about here

Eight themes are related to children's learning in a constructivist classroom environment and four themes are related to constructivist teaching. Also two themes were identified related to two other factors, assessment and direct instruction.

Discussion

The finding that out of 14 themes 8 themes were connected with children's learning in constructive environments shows that preservice teachers think mostly about aspects of students' learning in a constructivist perspective. The four themes related to constructivist teaching specifically show that preservice teachers look at constructivist teaching, occasionally, from the perspective of the teacher's role. It indicates that these teachers are more concerned about how children learn than how teachers teach in a

constructivist classroom. It appears that these teachers are mostly relating the theoretical knowledge gained from courses they have had in college about how children learn in a constructivist classroom and they do not project their thinking to actual classroom teaching. It indicates that preservice teachers find it difficult to think about teaching aspect of the constructivist learning environment. Many teacher education programs are limited in terms of field based experiences they offer for preservice teachers. Limiting these experiences may be contributing to perservice teachers low perspectives about teaching. As they gain more and broader experiences in teaching their perspectives can become sophisticated and elaborated.

The four themes related to teaching: "Constructivist teaching requires a balance curriculum in all areas," "constructivist teaching is more child-centered," "constructivst teaching is an effective way to teach" and "teachers need to guide children in their constructions" show that preservice teachers do not connect constructivist teaching with planning and organizing instructions which is a major component of teaching. Chaille & Britain, (1991), DeVries and Kohlberg, (1987) suggested that constructivist teacher should be a presenter, an observer, a question asker and problem poser, an environment organizer, a public relation coordinator, a documenter of children's learning and a theory builder. To optimize learning, the teacher should carefully and clearly organize the learning, facilitating options, interacting appropriately, asking questions and posing problems to stimulate children's thinking. It shows that these teachers have not given thought to specific aspects of constructivist teaching that facilitates children's construction of knowledge meaningfully.

The theme, "Learning can be assessed on children's performances" shows that some preservice teachers connect constructivist teaching and learning to overall aspects of the teaching function including assessing children's performance and make an attempt to look at learning more critically and in-depth. To have less than 25% of the sample for these themes indicates that few preservice teachers perceive constructivist teaching and learning from different angles.

The fourth category the "Direct instruction" indicates that some of the preservice teachers think that constructivist instructions cannot be applied to all situations of teaching such as teaching rules and teaching language etc. and they compare constructivist teaching with direct teaching. Regarding this theme, the percentage of 25 shows that one fourth of preservice teachers are not sure whether constructivist approach can be applied to all situations of learning.

More than 50% of preservice teachers agree that children construct their knowledge through hands-on experiences, they actively engage themselves in learning tasks, construct and reconstruct experiences grounded on the prior knowledge and learning is self-directed and self-regulated which encourages reflection, critical thinking and meaningful learning. It shows that these teachers understand the true meaning of how children learn in a constructivist teaching environment. Themes such as "Children learn from each other in a cooperative learning setting," "Children learn through exploration, experimentation, discovering and problem solving" and "children are enthusiastic and motivated to learn and apply what they learn in different contexts" having smaller percentages of responses, show that only a few of the preservice teachers give broader views of how learning takes place in a constructivist classroom.

Conclusion

For presearvice teachers to handle constructivist teaching, effectively with confidence, it is essential that they develop appropriate knowledge and skills about practices. According to Gray (1997) university and college instructors need to model constructivist practices and provide supportive assistance for preservice as well as inservice teachers as they attempt to understand constructivist practices in their college years. As Tobin (1990) points out that teachers need more time to prepare themselves mentally as well as physically for constructivist transition. It is important that beginning teachers gain experience participating in programs where they get opportunities to experiment with constructivist approaches to teaching. Traditional inservice programs need to be designed to encourage teachers to change their perspectives to embrace constructivist methods of teaching. Agreeing with the Bell's (1993) suggestion, these programs should provide on-going practices accompanied by support, feedback and reflection to allow teachers to make a smooth transition.

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Table 1

Themes Identified in Preservice Teachers' Perspectives about Constructivist Teaching and Learning

Themes identified	Percentages
01. Children construct their knowledge through hands-on experiences	84
02. Children engage themselves in learning tasks more actively	80
03. Learning is self-directed and self-regulated which encourages reflection, critical thinking and meaningful learning	53
04. Children construct and reconstruct experiences grounded on prior knowledge	52
05. Children learn from each other in a cooperative learning setting	39
06. Children refine their misconceptions interacting with an environment which stimulates their thinking	37
07. Teacher needs to guide children in their constructions	32
08. Direct instruction can be beneficial	28
09. Children learn through exploration, experimentation, discovering and problem solving	25
10. Children are enthusiastic and motivated to learn and apply what they learn in different contexts	25
11. Learning can be assessed on children's performances	25
12. Constructivist teaching requires a balance curriculum	16
13. Constructivist teaching is more child-centered	16
14. Constructivist teaching is an effective way to teach	16

Table 2

Patterns Identified in Themes on Preservice Teachers Perspectives about Constructivist Teaching and Learning

Patterns	Themes
Learning	Children construct their knowledge through hands-on experiences
	Children engage themselves in learning tasks more actively
	Learning is self-directed and self-regulated which encourages reflection, critical thinking and meaningful learning
	Children construct and reconstruct experiences grounded on prior knowledge
	Children learn from each other in a cooperative learning setting
	Children refine their misconceptions interacting with an environment that stimulates their thinking
	Children learn through exploration, experimentation, discovering and problem solving
	Children are enthusiastic and motivated to learn and apply what they learn in different contexts
Teaching	Teaching requires a balance curriculum Teaching is more child-centered Teaching is an effective way to teach Teacher needs to guide children in their constructions
Assessment	Learning can be assessed on children's performances
Direct instruction	Direct instruction can be beneficial